ment of the severe cold which reached Florida the night of the 17th was made on the 16th, and on the morning of the 17th this announcement was supplemented by special forecasts and warnings of freezing weather as far south as Tampa, Fla. As a result of these warnings thousands of acres of orange groves were protected either by the system of tents now in use, or by the use of dry heat. As a consequence, nearly all bloom was saved, which means many thousand dollars to the growers. A large acreage of pineapples and vegetables was also protected and saved. Figures furnished by growers show that the value of orange and other citrus trees, pineapples, and vegetables saved aggregate over $500,000.

The month closed with heavy snow from the upper Mississippi Valley over the lower lakes and New York. In New York snow began the night of the 28th and continued until March 1, except in the southeast portion of the State, where heavy rain fell.

Special and timely notifications were given to transportation companies and shippers of the heavy snowfalls of the month, and advantage was taken of the warnings to prepare for the snow and to prevent or reduce interruption to travel.

The night of the 20th a severe windstorm occurred along the east Gulf coast. Notwithstanding the fact that due warning was given of this storm many vessels in the bay at Pensacola, Fla., allowed their tows of timber to remain along side, and the timber was scattered along the beach by the storm.

On the 24th and 25th high winds prevailed over the eastern Gulf and western Cuba. Advisory warnings of these winds were sent as far south as Key West, Fla., on the 23d, and on the morning of the 24th storm signals were ordered on the south Atlantic coast, and agents of vessels bound north from Havana, Cuba, were notified that strong northwest winds would be encountered near the Florida coast. During the 24th vessels were delayed on the southern Florida coasts, and the Morgan Line steamer *Whitney* was disabled on a trip from Key West, Fla., to Havana, Cuba.

From the 10th to the 15th a rapid rise occurred in the rivers and streams of the east Gulf and South Atlantic States, and about the middle of the month destructive floods occurred in eastern New York and New England.

CHICAGO FORECAST DISTRICT.

The month was marked by decided changes in temperature and by the movement of three cold waves. The first two swept the entire district, but the influence of the third was not felt in the Rocky Mountain region. Cold-wave signals were ordered up at every station from twenty-four to thirty-six hours in advance of the movement of these cold waves, and all interests had an ample opportunity to prepare for these severe conditions.

On the evening of the 3d snow warnings were distributed to the observers and transfer companies in northern portions of Illinois and Indiana and the southern half of Lower Michigan. The month closed with heavy snow in the lower Missouri and upper Mississippi valleys and the southwestern lake region. A high northeast wind piled the snow into huge drifts making transportation most difficult. Ample warnings for heavy snow were thoroughly distributed in the districts named, and had it not been for the advices serious blockades would have resulted on many of the railroads. The greatest 24-hour snowfall ever recorded was reported at many of the stations during the storm.

The fact that no casualties occurred on Lake Michigan during the month is undoubtedly due to the ample warnings which were issued in advance of all storms.—*H. J. Cox, Professor.*

SAN FRANCISCO FORECAST DISTRICT.

The month, as a whole, was unusually dry and there were but few storms of marked importance.

Frost occurred on February 6 generally throughout the valleys; but little damage was reported. Warnings of frost, severe in exposed places, were issued on the 7th for California and Arizona.

A special forecast from Washington, D.C., stated that severe cold and high northerly winds would prevail in Arizona and southern California. These warnings were for the most part verified. Heavy frosts occurred generally in the valleys of California. In Arizona the temperature fell to 40° at Phenix and no damage was reported. High northerly winds prevailed both in the Sacramento and San Joaquin valleys and in southern California.—*Alexander G. McAdie, Forecast Official.*

PORTLAND, OREG., FORECAST DISTRICT.

The storms of the month moved in high latitudes over British Columbia, as a rule, and passed eastward with great rapidity. One of these on the night of the 5–6th caused gales over lower Puget Sound, which did some damage to wharfs.

Heavy rains and warm weather caused a rapid rise in the river, beginning on the 22d, and on the 24th it reached a stage of 10.4 feet. Forecasts were issued from the 22d to the 25th, which were timely and accurate.—*G. N. Salisbury, Section Director.*

HAVANA FORECAST DISTRICT.

No severe storms occurred in the West Indies during ihe month. On a number of dates strong winds attended the passage of storms over the southeastern part of the United States, and the cold wave which overspread .Florida about the middle of the month caused a very appreciable fall in temperature in Cuba.—*W. B. Stockman, Forecast Official.*

AREAS OF HIGH AND LOW PRESSURE.

During the month of February twelve highs and thirteen lows moved across the country in paths sufficiently well defined to admit of charting. Their directions of movement and some of their principal characteristics were as follows: (See Charts Nos. I and II.)

Highs.—Eight of the twelve highs originated either in the western Saskatchewan Valley or in northern Alberta. No. I moved southeastward to the Virginia coast in two and one-half days. No. II took the same course, although at lesser speed, as far as Iowa, where it dissipated. No. III moved to eastern Wisconsin, where it was joined by another section which had moved in from northern Nevada; the combined crest then turned northward to Lake Superior, and from thence moved eastward to the Newfoundland coast. On the morning of the 9th there was a high over the north Pacific coast, which remained there until the morning of the 12th, when it moved over into Alberta. It then gradually overspread the British Northwest, the crest remaining generally over Alberta until the night of the 15th, when it moved southward, Helena, Mont., on the morning of the 16th, reporting the abnormally high reading of 31.12 inches. It continued after this time with steadily decreasing intensity almost due southward to southern Texas, and thence eastward across the Florida Peninsula. This high is charted as No. V. No. VI, after an irregular course to Lake Superior, turned sharply to the southward, and disappeared off the North Carolina

coast. No. VII moved very slowly, and became lost in western Minnesota in two and one-half days. No. XI closely imitated No. VI until the District of Columbia was reached, when it turned to the northeastward, and moved off the Newfoundland coast, after occupying seven days in its transit. No. XII moved down to northeastern South Dakota, and thence northeastward to Lake Superior where it was last seen.

Of the remaining four highs, No. IV moved from central Iowa to the Virginia coast in twenty-four hours; No. VIII originated over Lake Superior, and moved out by way of St. Johns, N. F.; No. IX originated in the Texas panhandle, moved to southern Louisiana, and thence northeastward to central Alabama, where it dissipated, and No. X moved along the entire Pacific coast from south to north.

Movements of centers of areas of high and low pressure.

Number.	First observed.			Last observed.			Path.		Average velocities.	
	Date.	Lat. N.	Long. W.	Date.	Lat. N.	Long W.	Length.	Duration.	Daily.	Hourly.
High areas.		°	°		°	°	*Miles.*	*Days.*	*Miles.*	*Miles.*
I	3, a. m.	53	109	5, p. m.	37	76	2,150	2.5	860	35.8
II	4, a. m.	54	114	6, a. m.	42	93	1,275	2.0	638	26.6
III*	6, p. m.	54	114	11. a. m.	46	60	2,925	4.5	650	27.1
	7, a. m.	41	118				3,350	4.0	838	34.9
IV	13, p. m.	42	93	14, p. m.	37	76	1,025	1.0	1,025	42.7
V	15, p. m.	50	110	20, a. m.	27	80	3,025	4.5	672	28.0
VI	17, a. m.	53	109	20, p. m.	34	76	2,650	3.5	757	31.5
VII	18, p. m.	54	114	21, a. m.	47	97	1,050	2.5	420	17.5
VIII	21, a. m.	48	85	23, a. m.	48	54	1,575	2.0	788	32.8
IX	21, p. m	36	101	23, a. m.	32	87	1,075	1.5	717	29.9
X	20, a. m.	34	119	23, a. m.	48	124	1,200	3.0	400	16.7
XI	22, p. m.	54	114	†1, p. m.	46	60	3,515	7.0	503	20.9
XII	27, a. m.	53	109	28, p. m.	48	85	1,400	1.5	933	38.9
Sums							26,215	39.5	9,201	383.3
Mean of 13 paths							2,017		708	29.5
Mean of 39.5 days									664	27.7
Low areas.										
I	2, p m	44	100	7, a. m.	48	54	3,140	4.5	698	29.1
II	4, p. m.	44	100	5, a. m.	35	98	650	0.5	1,300	54.2
III*	5, a. m.	53	121	8, noon.	47	84	3,075	3.2	961	40.0
	6, p. m.	33	115				2,050	1.7	1,206	50.2
IV	8, a. m.	47	123	11, p. m.	48	87	2,350	3.5	671	28.0
V	11, a. m.	44	103	14, a. m.	47	65	2,750	3.0	917	38.2
VI	13, p. m.	38	109	16, a. m.	46	60	3,325	2.5	1,330	55.4
VII	15, a. m.	27	86	18, p. m.	46	60	2,080	2.5	832	34.7
VIII*	18, a. m.	50	110	24, a. m.	46	60	3,875	6.0	646	26.9
	18, p. m.	41	118				3,625	5.5	659	27.5
IX	19, p. m.	48	122	23, a. m.	48	89	1,850	3.5	529	22.0
X	22, p. m.	33	104	25, p. m.	48	68	2,700	3.0	900	37.5
XI	24, a. m.	51	114	25, p. m.	32	99	1,550	1.5	1,033	43.0
XII	26, a. m.	38	113	†2, p. m.	47	71	3,285	4.5	730	30.4
XIII	28, a m.	53	121	†1, p. m.	45	93	1,500	1.5	1,000	41.7
Sums							37,805	46.9	13,412	558.8
Mean of 15 paths							2,520		894	37.3
Mean of 46.9 days									806	33.6

*Considered as two in totals and means. †March.

Lows.—Nos. I, II, and V originated in South Dakota. No. II disappeared in Oklahoma after twelve hours rapid movement. No. I, after moving southward to western Kansas, turned almost due eastward to the District of Columbia, and thence northeastward to St. Johns, N. F. No. V moved southward to Oklahoma by way of eastern Colorado, and thence generally northeastward through the St. Lawrence Valley. No. VII evidently originated in central Gulf of Mexico; moved by way of central Georgia to the North Carolina coast, and thence along the Atlantic coast to Cape Breton Island, where it passed into the ocean. This storm steadily increased in energy as it advanced, and when last reported the barometer reading was 28.98 inches.

The remaining nine lows were first noted west of the Rocky Mountains, and six of them passed over the northern portion of the southern slope. No. III began as two widely separated depressions; one was first observed in southwestern Arizona, moved eastward to Oklahoma, where it was joined by the other section, which had moved in from the British Province of Columbia, through Montana to eastern Nebraska, and thence southward to Oklahoma; the combined low then moved northeastward over eastern Lake Superior. No. IV first appeared on the north Pacific coast, moved northward to Columbia, and thence eastward, being last observed north of Lake Superior. No. VI had its origin in western Colorado, moved southeastward to northern Texas, and thence northeastward over the lower Lakes to northern New Brunswick, where it turned eastward to the ocean. This low was not well defined, and the original depression remained in the middle Plateau until its offshoot had disappeared off the Cape Breton coast. No. VIII originated in northern Nevada, and followed in almost the same path traversed by No. VI, except that it turned eastward to the ocean after reaching the lower Lake region. No. IX followed almost exactly in the path of No. IV, while No. X began in southeastern New Mexico and, after sending an offshoot to the north Texas coast, continued eastward to the middle Atlantic coast, where it turned northward, developing into the severest storm of the month. It disappeared north of New Brunswick with a final barometer reading of 28.56 inches. No. XI originated in Alberta, and moved south-southeastward to central Texas, where it dissipated. No. XII originated in southwestern Utah and passed out over the Province of Quebec by way of northern Texas, the lower Ohio Valley, and the middle Atlantic coast. No. XIII was first observed in Columbia, moved eastward to Manitoba, and thence southeastward to southeastern Minnesota, where it disappeared.—*H. C. Frankenfield, Forecast Official.*

RIVERS AND FLOODS.

The Mississippi River remained practically frozen over during the month as far south as the mouth of the Des Moines River. The ice broke up at Hannibal, Mo., on the morning of the 8th and moved out. Below Hannibal, Mo., there was more or less floating ice during the entire month to below the mouth of the Ohio River, and from Chester, Ill., to Cairo, Ill., it was heaviest during the closing days of the month. Back of Cairo, Ill., the ice in the Mississippi was gorged from the 19th until the afternoon of the 23d, with the exception of a few hours on the 21st. On account of the ice, navigation from St. Louis, Mo., to Cairo, Ill., was very intermittent during the month.

The water stages were higher than in January, 1900, particularly below the mouth of the Ohio, where the average increase ranged from 8 to 10 feet, except at New Orleans, La., where it was only 2.5 feet. The river fell steadily during the first part of the month, but rose rapidly after the rise from the Ohio reached Cairo, Ill., on the 8th.

The Missouri remained frozen to below Omaha, Nebr. Below the mouth of the Platte River there was a little more water than in January, and there was more or less ice during almost the entire month. The river was blocked at Boonville, Mo., except on the 8th. At Hermann, Mo., attempts were made at various times to resume navigation, but without success.

The Des Moines River was also frozen over during the entire month, while the Illinois remained open and rose steadily, reaching the danger line for points below Peoria, Ill., on the 25th, and continuing to rise thereafter.

The extreme upper tributaries of the Ohio were frozen during the earlier days of the month, and the water stages were not worthy of special note. A decided rise set in at Pittsburg, Pa., on the 8th, reaching its crest on the 10th. It passed Parkersburg, W. Va., on the 11th, Cincinnati, Ohio, and Louisville, Ky., on the 17th; Evansville, Ind., on the 18th, and Cairo, Ill., on the 21st. The stages were not at all

high, however. On the whole there was from 5 to 8 feet more water than during January.

In the Tennessee River there was some ice during the first few days of the month above Chattanooga, Tenn., causing a suspension of navigation until the 5th. Heavy rains on the 12th and 13th caused a rapid and decided rise, amounting to over 15 feet at Chattanooga in three days. The fall was almost equally rapid. During the rise about 5,000,000 feet of logs were rafted from the upper river to Chattanooga, Tenn. The Cumberland River rose at the same time, but no flood stages were reached except at Johnsonville, Tenn., on the Tennessee River, on the 19th and 20th. No damage was reported.

In the Hudson River the water reached its highest point since 1857 on account of the ice gorges which prevailed from January 17 to February 14. The following description of this flood was extracted from the special report thereon by Mr. A. F. Sims, Official in Charge of the Weather Bureau office at Albany, N. Y.

The ice broke up in the Hudson River on the morning of January 17, moved southward, and passing under the ice near Roaras Hook jammed in the narrow space near Baeren Island.

The ice from the Upper Hudson moved down to the gorge, and the jam was thus extended to Van Wie's Point. With the coming of high water on February 12, 13, and 14, the gorge began to rise slowly at Coeymans, N. Y. As it rose the ice that was held behind it was forced under by the current and was wedged in tightly. When the ice from the Hoosick, Mohawk, and Upper Hudson moved down, the jam at Van Wie's Point held it for a while and a temporary gorge was formed there. When a higher stage of water was reached the Coeymans gorge started to rise. The ice gorge at Van Wie's Point and the jams at Castleton and Cedarhill, N. Y., moved southward one-half mile, rendering the dam more effectual and sending the Hudson River, at Albany, N. Y., up to 19.96 feet above mean low water. About one mile below the gorge men continued to cut and harvest 12-inch ice.

The damage to property between Schenectady and Coeymans, N. Y., was $174,700.

The number of lives lost, 3.

The principal loss by the flood was suffered by the poor residents of the lower section of this city. Very little movable property was damaged.

On February 14, seven hours prior to the breaking up of the ice in this city, the two engineers in charge of bridge construction, representatives of the American Ice Company, New Jersey Ice Company, Yonkers Ice Company, and leading merchants of this city, met in the Weather Bureau Office. I placed the facts before them and stated that the ice would break up by 5 p. m. In reply to questions propounded by the engineers, I stated that their false work under the draw span would not withstand the pressure of the ice, advised them to remove their tools and materials and keep their men off the bridge span as soon as they removed all portable articles. They followed the advice given and several days afterward the engineers told me that they did not have even as much as a hammer on the draw span when the east side of the draw was carried away.

We answered 300 calls on the telephone and had 400 visitors during February 14.

Many thousand dollars worth of perishable merchandise and property was saved by the timely warnings and forecasts of the Weather Bureau. The press of this section has been most liberal in its praise of the service, and we have the thanks of a grateful community.

Conditions in the Susquehanna River did not change materially during the month. There was ice the greater portion of the time, and on the 9th its breaking up at Wilkesbarre, Pa., caused a temporary rise of over 9 feet to the danger line of 14 feet.

At the same time that the Hudson River flood was in progress there were severe and disastrous floods in New England and the South Atlantic and east Gulf States, due to heavy and warm rains. In New England they were particularly disastrous, covering the main streets in many of the cities with from 1 to 3 feet of water. No accurate estimate of the damage done has been received, but it was evidently over $1,000,000.

The rivers of the South Atlantic States were high about the middle of the month, and rose above the flood lines in South Carolina and Georgia. Warnings of these stages were issued generally, but much damage occurred that could not have been prevented. The Savannah River at Augusta, Ga., reached the danger line on the 14th, and flooded some low streets and yards. It also interfered somewhat with the working of some of the mills. Chattahooche, Flint, and Ocmulgee rivers were very high, especially the former. About $25,000 worth of bridges were carried away on this river north of Columbus, Ga., and 3,000 mill hands at Columbus were idle for a week on account of damage done to the machinery by the rising waters.

Many thousand acres of farm lands were also inundated, but, apart from the temporary inconvenience, this was rather advantageous than otherwise on account of the improved condition of the soil which resulted therefrom.

The rivers of Alabama were also high at the same time and for the same reason. At Montgomery, Ala., the Alabama River reached a stage of 48.6 feet on the 15th, or 13.6 feet above the danger line, and similar conditions prevailed at Selma, Ala., also at Demopolis, Ala., on the Tombigbee River, and at Tuscaloosa, Ala., on the Black Warrior River. Timely and accurate warnings of this flood were given by the officials in charge of the Weather Bureau offices at Montgomery and Mobile, Ala. They were reinforced by supplementary warnings from time to time, and were the subjects of much commendation from the public press and others interested. The following description of the flood in the rivers of central and eastern Alabama is from the special report of Mr. F. P. Chaffee, in charge of the Weather Bureau office at Montgomery, Ala.:

Moderate rains fell over this region on the 10th instant, and, anticipating general and heavy rains on the following night, special reports were called for from all the river stations of this section for Sunday morning (the 11th); these reports showing the rainfall to be quite heavy in the middle portions of the State, a special bulletin was issued that forenoon for probable rapid rises in the rivers from Wetumpka to Selma, Ala., and for a rapid though not dangerous rise at Rome, Ga.; these bulletins were given local distribution and the information telephoned or telegraphed the Weather Bureau office at Mobile, Ala., and river observers at points threatened. General and heavy rains continued over the middle portion of the State through the night of the 11th–12th, the rainfall exceeding 2 inches at Montgomery, Tallassee, and Wetumpka, Ala., and being less over the upper portions of the watershed. Warnings were issued for a rapid but not dangerous rise in the Upper Coosa and for high stages in the Lower Coosa and Alabama during the next two days. The 3 p. m. reports of the 12th, showing the heavy rains as spreading northward to the upper watersheds, additional warnings were issued that evening saying the river would go nearly to danger line at Rome, Ga.; for moderate flood stages at Gadsden and Lock No. 4, Ala. (Lincoln), and for dangerous stages at Montgomery and Selma, Ala., by the morning of the 14th, and advising that stock and other property liable to damage should be moved from lands subject to overflow at 30 feet between Wetumpka and 100 miles south of Selma, Ala. Morning reports of the 13th, showing the rainfall as excessive over the northern and middle portions of our watershed, exceeding 3 inches in twenty-four hours at several places, and that the rainfall from the 10th to the morning of the 13th ranged from 3½ to above 6 inches over the entire watershed, additional warnings were issued for continued and slightly higher though moderate flood stages from Gadsden, Ala., south, for a stage of 48 feet at Selma and Wetumpka, Ala., and that a 45-foot stage might be expected at Montgomery, Ala., by the morning of the 15th; it was also advised that stock and other movable property liable to damage should at once be moved from lands subject to overflow at 45 feet between Wetumpka and 100 miles below Selma, Ala.

Reports were called for twice daily from all stations up to and including the 14th, and specials from Wetumpka and Selma, Ala., during the afternoon of the 15th.

The upper rivers rose steadily until the evening of the 14th, the rise continuing through the 15th as far south as Montgomery, Ala., the flood crest passing Selma, Ala., during the night of the 16–17th. The warnings were verified almost to the exact stages forecasted, except at Rome, Ga., where it did not go quite to the danger line. The danger line was exceeded by 3.6 feet at Gadsden, Ala., and by 0.5 foot at Lock No. 4, Ala., while at Wetumpka, Ala., 48.2 feet was the highest (48 feet being forecasted); at Montgomery, Ala., 48.6 feet was the highest (over 45 feet forecasted, and to inquiries by telephone information given that about 48 or 49 feet would be the highest reached), and at Selma, Ala., 48 feet (48 feet forecasted).

Special bulletins were issued every afternoon while the waters were rising. All the warnings were well in advance of the rise, and were

very widely distributed by telephone, telegraph, and mail, and through the press, and special effort was made to keep the different railroads centering here, whose property was threatened, fully warned as to the progress of the flood. Several of the railroads, on the strength of the warnings, had repair trains in readiness to protect weak places in roadbeds and embankments, and thus escaped damage and avoided delay in traffic which would have been costly. The warnings were well heeded by all classes, and the value of live stock and other property which was moved from the threatened district, and which might have been lost, would, it is conservatively estimated, reach, if not exceed $300,000. About seventy-five families residing in the low grounds of the northern suburbs of Montgomery, Ala., which were flooded, moved their household effects before the water reached them, while others, on slightly higher ground, were saved the expense of moving by the assurance given from this office that they were safe.

One farmer who had about four hundred tons of hay stored in a barn, which would be reached at a stage of 52 feet, was saved the expense of moving it by information contained in our warnings. The value of the warnings to the railroads can not be estimated, but it was certainly great.

The Manager of the Southern Bell Telephone Company at this place by request of this office, cheerfully cooperated in distributing the warnings, free of charge, to all river towns reached by their lines and by connecting lines of the American Bell Telephone Company, thus giving the information a wider distribution than could have otherwise been obtained.

This flood was the highest that has occurred in the Lower Coosa and Alabama since 1892. The damage reported from the flood is mostly of a minor nature, and such as could not have been averted.

Nothing of special interest transpired along the rivers of the Pacific coast.

The highest and lowest water, mean stage, and monthly range at 127 river stations are given in Table XI. Hydrographs for typical points on seven principal rivers are shown on Chart V. The stations selected for charting are: Keokuk, St. Louis, Memphis, Vicksburg, and New Orleans, on the Mississippi; Cincinnati and Cairo, on the Ohio; Nashville, on the Cumberland; Johnsonville, on the Tennessee; Kansas City, on the Missouri; Little Rock, on the Arkansas; and Shreveport, on the Red.

The thickness of ice in the rivers since December 4, 1899, is given in the following table. Although there was a considerable increase in the amount of the ice during February, the culmination of the winter season, yet there were about 6 inches less than during February, 1899, indicating, as was the fact, a much milder condition of affairs as far as the temperature is concerned. This statement applies also to the entire winter, and can readily be traced from week to week through the ice tables.—*H. C. Frankenfield, Forecast Official.*

Thickness of ice in rivers (in inches), winter of 1899–1900.

Stations.	December.				January.					February.				March.			
	4	11	18	25	1	8	15	22	29	5	12	19	26	5	12	19	26
Moorhead, Minn					12.0	19.0	21.0	24.0	26.0	30.0	32.0	36.0	36.5				
Williston, N. Dak	1.0	1.5	6.0	8.0	16.0	16.0	16.0		21.0	24.0	26.0	27.5	29.5				
Bismarck, N. Dak			1.5	9.0	16.0	17.0	17.0	15.0	17.0	17.0	22.0	25.0	26.0				
Pierre, S. Dak			1.5	3.5	14.0	15.0	10.5	8.0	14.0	15.5	16.0	21.0	20.0				
Yankton, S. Dak			5.0	7.0	10.0	11.0	10.5	8.5	10.0	11.5	14.5	15.5	20.0				
Sioux City, Iowa				1.5	10.0	8.0	6.0				14.0	16.0	18.0				
Omaha, Nebr					10.0					6.0	12.0	15.0	17.0				
St. Paul, Minn					12.5		20.0	16.0	18.0	20.0	22.0	23.0	24.0				
La Crosse, Wis				5.0	10.0	9.0	7.5	6.0	9.0	11.5	10.5	14.0	14.0				
Dubuque, Iowa			4.0	5.0	12.0	10.5	10.0			11.0	11.0	14.0	16.0				
Davenport, Iowa					8.0	9.0	6.0			10.0	10.0	15.0	17.0				
Keokuk, Iowa					10.0		5.0			8.0	0.0	12.0	11.0				
Hannibal, Mo					8.0					4.0	0.0						
Topeka, Kans					6.5							2.0	3.0				
Wichita, Kans					2.0												
Pittsburg, Pa					4.0												
Parkersburg, W. Va					1.0	2.0											
Louisville, Ky					5.0												
Columbus, Ohio					7.0	1.0			3.0	0.5		0.5	1.0				
New Brunswick, N. J						6.0			2.5								
Bangor, Me			2.0	2.0	4.5	8.0	9.0	12.0	14.0	14.0	17.0	17.0	16.0				
Albany, N. Y					4.0	5.0	8.5		2.5	8.0	7.5	2.0	4.0				
Harrisburg, Pa						3.0	3.0			4.0							
Philadelphia, Pa					2.0	2.0											
Washington, D. C					5.0												
Lynchburg, Va					4.0	2.0						0.5					

CLIMATE AND CROP SERVICE.

By JAMES BERRY, Chief of Climate and Crop Service Division.

The following extracts relating to the general weather conditions in the several States and Territories are taken from the monthly reports of the respective sections of the Climate and Crop Service. The name of the section director is given after each summary.

Rainfall is expressed in inches.

Alabama.—The mean temperature was 43.8°, or about 2.5° below normal; the highest was 82°, at Wetumpka on the 8th, and the lowest, 6°, at Riverton and Valleyhead on the 17th. The average precipitation was 8.01, or about 3.00 above normal; the greatest monthly amount, 17.60, occurred at Union Springs, and the least, 3.88, at Florence.

Farm work very much retarded by excessive rains, which also caused nearly all rivers to overflow. Oats considerably damaged by the cold wave of the 17–18th, but fruit was not sufficiently advanced as to be injured.—*F. P. Chaffee.*

Arizona.—The mean temperature was 49.9°, or 0.6° above normal; the highest was 90°, at Arivaca on the 25th and 28th, and the lowest, zero, at Snowflake on the 11th. The average precipitation was 0.39, or 0.50 below normal; the greatest monthly amount, 1.93, occurred at Mount Huachuca, while none fell at a number of stations.—*W. G. Burns.*

Arkansas.—The mean temperature was 39.5°, or 3.5° below normal; the highest was 74°, at Dallas, Elon, and Newport on the 8th, and the lowest, 5° below zero, at Winslow on the 17th. The average precipitation was 5.06, or 1.03 above normal; the greatest monthly amount, 7.70, occurred at Brinkley, and the least, 2.40, at Silversprings.

Owing to decided temperature changes during the month wheat has been damaged to a considerable extent in many sections, while in others there was sufficient protection afforded by snow. On the whole, however, reports show the condition of wheat to be above the average for this time of year. In some sections land is being prepared for corn, but as a rule the conditions of weather and soil have not been favorable for farm work.—*E. B. Richards.*

California.—The mean temperature for the State, obtained by weighting the reports from 188 stations, so that equal areas have about the same weight, was 49.9°, which was 2.1° above the February normal for the State, as determined from 155 records; the highest recorded temperature was 95°, at Elsinore, San Diego County, on the 28th, and at Ogilby, San Diego County, on the 14th and 25th; the lowest was 9° below zero, at Bodie, Mono County, on the 6th. The average precipitation for the State, as determined by the records of 188 stations, was 0.94; the deficiency, as indicated by reports from 155 stations, which have normals, was 2.30; the greatest monthly amount, 12.86, at Crescent City, Del Norte County, while none fell at many stations.—*Alexander G. McAdie.*

Colorado.—The mean temperature was 27.0°, or 1.3° above normal; the highest was 70°, at Lamar and Trinidad on the 22d, and the lowest, 32° below zero, at Walden on the 17th. The average precipitation was 0.84, or 0.14 below normal; the greatest monthly amount,